

eVIP PM Counters Interface

Evolved Virtual IP

InterWork Description

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Contents

1	Introduction	1
2	Term Definitions	3
3	Performance Measurement Groups	5
4	Measurements	7
4.1	Example ROID or measObjLdn	7
5	Performance Measurement Jobs	9
6	Measurement Job Results	11
	Reference List	13





1 Introduction

This document describes the PM Counters interface provided by eVIP. A number of measurements are available to report on the status of the datagrams and bytes received and sent.

eVIP PM counters are only available when eVIP is run in a Core MW environment and cannot be used by eVIP for LSB.

Further details about Performance Management is available in [Core MW Performance Management Description](#) and in 3GPP Performance Management Concept and requirements in Reference [3].





2 Term Definitions

The terms used in the following sections are defined as follows:

3GPP 3rd Generation Partnership Project.

Measurement Name The name of the measurement being described.

Performance Measurement Group Represents a logical grouping of Measurement Type objects so that these objects can be referred to as a group instead of individual objects.

Description The description of the measurement along with any applicable unit of measurement.

Measurement Type The four types of 3GPP standard measurements (counter, gauge, status inspection, and discrete event registration) used to report data.

ROID Resource Object Identifier (used in COM / Core MW).





3 Performance Measurement Groups

eVIP has one PM Group, that applies to both real and virtualized hardware.

Table 1 PM Group Names

Name	Description	Syntax for ROID or measObjLdn (Measured Object Local Distinguished Name) of related measurementType See Section 4.1 on page 7
EvipNetstat	Network statistics for a particular FEE or ALB.	Alb=<alb_name> Alb=<alb_name>,Fee=<fee_name>

Note: Providing the FEE name is optional. When FEE is omitted, aggregated values of all FEEs within the ALB will be provided.





4 Measurements

PM producer daemons (apart of evip_amf_proxy) on each eVIP node collect statistical information which is reported via the Core MW Performance Management Interface. For more details on this interface, see [Core MW Performance Management Description](#) . All network measurements are reported as delta (change in value) from previous sample. Counters only include data passing through FEE elements and will not include data related to routing protocols and intra-cluster traffic.

Table 2 eVIP Measurement Instances

Measurement Name	PM Group	Description(units)
ip4OutOctets	EvipNetstat	IPv4 Octets Sent
ip6OutOctets	EvipNetstat	IPv6 Octets Sent
ip4OutDatagrams	EvipNetstat	IPv4 Datagrams Sent
ip6OutDatagrams	EvipNetstat	IPv6 Datagrams Sent
ip4InOctets	EvipNetstat	IPv4 Octets Received
ip6InOctets	EvipNetstat	IPv6 Octets Received
ip4InDatagrams	EvipNetstat	IPv4 Datagrams Received
ip6InDatagrams	EvipNetstat	IPv6 Datagrams Received

4.1 Example ROID or measObjLdn

The ROID or measObjLdn (Measured Object Local Distinguished Name) can be constructed for each measurement instance by using the correct identifiers after the appropriate PM Group

For example

- Alb=alb1
- Alb=alb1,Fee=fee1
- Alb=alb1,Fee=fee2
- Alb=alb2
- Alb=alb2,Fee=fee1
- Alb=alb2,Fee=fee2





5 Performance Measurement Jobs

Measurement jobs can be created as per [ECIM PM, Use Case Description](#) . The COM CLI may be used to create, activate, modify and delete PM jobs as per examples below.

Example via ECIM, to set up a new measurement job:

- configure
- ManagedElement=1,SystemFunctions=1,Pm=1
- PmJob=MyEvipJob
- requestedJobState=STOPPED
- granularityPeriod=ONE_MIN
- reportingPeriod=ONE_MIN
- MeasurementReader=1
- measurementSpecification,groupRef="ManagedElement=1,SystemFunctions=1,Pm=1,PmGroup=EvipNetstat"
- commit
- show
- exit

Example via ECIM, to activate the measurement job:

- configure
- ManagedElement=1,SystemFunctions=1,Pm=1
- PmJob=MyEvipJob
- requestedJobState=ACTIVE
- commit
- show
- exit

Example via ECIM, to change the reporting and granularity period to five minutes:

- configure
- ManagedElement=1,SystemFunctions=1,Pm=1



- PmJob=MyEvipJob
- granularityPeriod=FIVE_MIN
- reportingPeriod=FIVE_MIN
- commit
- exit

Example via ECIM, to delete a measurement job:

- configure
- ManagedElement=1,SystemFunctions=1,Pm=1
- PmJob=MyEvipJob
- requestedJobState=STOPPED
- commit
- up
- configure
- no PmJob=MyEvipJob
- commit
- exit

Alternatively, Core MW command line tools may be used to create a job as the example below:

Example via Core MW commands:

- cmw-pmjob-create MyEvipJob -u EvipNetstat -p3 -t1 -q1 -g3 -r3
- cmw-pm-show-counters Alb=alb1,Fee=fee1

See further relevant command line tools provided by Core MW: cmw-pmjob-create, cmw-pmjob-delete, cmw-pmjob-list, cmw-pmjob-modify, cmw-pmjob-start, cmw-pmjob-status, cmw-pmjob-stop, cmw-pm-show-counters.

Note: Due to Core MW PM architecture and its method of collection, changes to FEE allocation (e.g. reboot, shutdown, scaling-in) may cause up to one granularity period of packet counter data to be lost.

Note: When adding a job, the granularity_period should be equal to reporting_period. Periods below one minute are not possible.



6 Measurement Job Results

At the end of the configured granularity period, a report with counter values will be output to the folder

— /storage/no-backup/com-apr9010443/PerformanceManagementReport
Files

Alternatively, the helper command "cmw-pm-show-counters" can display counters at runtime.

Show counter values per FEE

— cmw-pm-show-counters Alb=alb1,Fee=fee1

Show the aggregated values of counters per ALB

— cmw-pm-show-counters Alb=alb1





Reference List

- [1] Core MW Performance Management Description , 1/155 16-901 2624/4
- [2] ECIM PM, Use Case Description , 14/155 56-FAE 151 01
- [3] 3GPP Performance Management Concept and requirements. 32.401 v11.0.0 , <http://www.3gpp.org/DynaReport/32401.htm>